NAWCWD Quick Facts

China Lake and Point Mugu, California (July 2009)

Providing Daily Support to our Warfighters Around the World
Supporting Naval Aviation and Warfighter Requirements Since 1943

Naval Air Warfare Center Weapons Division (NAWCWD)
www.navair.navy.mil/nawcwd

Mission. To provide Navy and Marine Corps warfighters with effective, affordable, integrated warfare systems, and life-cycle support to ensure battlespace dominance.

Research, Development, Acquisition, Test and Evaluation (RDAT&E)

- Provide logistics and in-service support for guided missiles, free-fall weapons, targets, support equipment, crew systems, and electronic warfare
- Operate the Navy's Land and Sea Ranges using state-of-the-art network-centric warfare, modeling and simulation, and full-scale and sub-scale targets
- Conduct joint live-fire survivability testing
- Test explosives and propellants up to 500,000 pounds

Direct Conflict Involvement. WD played a significant role in every U.S. military crisis beginning with WWII. During Operation Iraqi Freedom a few quick quick-response topics include:CH-53E, Cobra Dos, Low Collateral Damage Bomb, Electronic Warfare Database Support, GBU-24E/B Laser Guided Bomb, Improvised Explosive Devices, Countermeasures, Intrepid Tiger Pod, JammerTechnique Optimization, Joint Direct Attack Munition, Man Portable Air Defense Systems, MH-60R, Precision Strike Suite For Special Operations Forces, P-3C search capability, Rapid Attack Information Dissemination and Execution Relay, Shared Reconnaissance Pod, TOPSCENE

World Leader in RDAT&E Weapons Armament and Technology including guided missiles, advanced weapons and systems, complex software integration on tactical aircraft, energetic materials and subsystems.

Aircraft Weapons Integration. AH-1, AV-8B, EA-6B, EA-18G, F/A -18G, EP-3E, JSF, UAS, F-22 (USAF)

Historic Aerospace Site
American Institute of Aeronautics and Astronautics

Both China Lake and Point Mugu have been nationally recognized

AIAA China Lake. "Conceived and developed rockets during WWII; non-nuclear components for the first atomic bomb; Sidewinder, Shrike, and Walleye missiles; and the Polaris concept. China Lake developed NOTSNIK in 1958 and vital components for the Mars Lander in 2004. The Station, a world leader in aircraft-weapons integration, testing, and electronic warfare, developed 75% of the air-launched weapons used during Vietnam and jointly developed 80% of those used during Iraqi Freedom."

Approved for Public Release

AIAA Point Mugu. "Established in 1946 to provide a comprehensive test and evaluation site for tactical missiles, Point Mugu has been instrumental in the development, test, evaluation and inservice support of systems including Regulus, Sparrow, Phoenix, Bullpup, Harpoon, SLAM, Tomahawk, Standard, and Rolling Airframe Missile. The first missile launch from an operational submarine was also accomplished at Point Mugu."

Technology Transfer (Examples)

- CL-20 (most significant energetic material in 50 years)
- Auto air-bag sensors
- Ultrasonic scanning
- Stop-action video
- Chemiluminescent light sticks
- Geothermal Energy

Mars Lander 2004. Designed, built, and installed the zylon bridle system onto each spacecraft; jointly developed, with NASA's Jet Propulsion Laboratory (JPL), the descent rate limiter, and radar system; tested the retro-rockets, and conducted multi-body tests.

Latest Technologies

- **Spike.** 5 lb, $5K, tiny, accurate guided missile the size of a loaf of French bread. Man-portable, UAV capable, and perfect for future robotic weapon systems.
- **LOGIR**. A low cost, precision enhancement kit for rockets, able to kill large numbers of small aggressively moving targets in a single sortie quickly and surgically, with reduced pilot exposure. LOGIR does for rockets what JDAM does for iron bombs!
- **Scan Eagle Guided Munition.** 3-1/2 pound laser guided bomb designed for operation from small UAVs. Advancing toward inert flight demonstration in 2010.
- **GPS Guided Munition.** One pound precision miniature munition for use from handheld 40mm grenade launchers and UAVs. Successfully completed guided air gun launches. Potential growth options include IR or EO seeker and extended range.
- **BioFuel.** Researchers are developing new methods to produce diesel and full-performance jet fuels from renewable sources, such as waste cellulose. One successful process converts butane into a full-performance jet fuel. This discovery has the potential to drastically reduce the DoD carbon footprint.
- Network-Centric Warfare, Energetics, High-Speed Weapons, Unmanned Aviation Systems, Homeland Defense, Counter Terrorism, Time-Critical Long Range Strike

Scope of Operations (Jan 2009)

Annual Funding $1.13 billion

Contracts (all supplies and services) $586,000,000

Weapons Division (WD) Personnel
(China Lake and Point Mugu)

- Civil Service 4,321
- Military (NAWS/NAWC/Tenants) 694
- Contractor work years 1,888
- **Total 6,903**

(NAVAIR Personnel at all 8 sites) *25,000+*

Annual Test Events 1,671

Training Sorties (R-2508) 17,865

Major Training

- **Fleet Battle Experiments**
  Empire Challenge 2008 / 2009
- **Major Exercises** conducted on the Sea Range, Land Range, Superior Valley, and Electronic Combat Range. Top Gun training.

Land. 1.1 million acres (larger than Rhode Island)

- Navy's largest single landholding
- 85% of Navy RDT&E lands
- 52% of Navy lands worldwide

Sea. 36,000 square miles, expandable to 125,000

Air. R-2508 is 12% of California's total airspace

Annual Visitors. 40,800+ **Foreign Visits** 2,800+

Facilities and Ranges

The Navy Region Southwest proudly hosts NAWCWD on its facilities at China Lake and Point Mugu, California

- Plant replacement value $3 billion+
- Buildings and facilities 3,000+
- Airfields 3
- Warfighter Response Center provides subject matter experts internationally
- Unique world class facilities and test ranges
- Optimal test environment – 350+ clear days per year
- Geographic Diversity – Vast ocean, deep water ports, protected islands, mountains, deserts, canyons, and forests—in close proximity within restricted air and land space.

Customers and Partners (Partial List)

Foreign. Australia, Canada, Croatia, Denmark, Egypt, Finland, France, Germany, Greece, Israel, Italy, Japan, South Korea, Norway, Netherlands, New Zealand, Spain, Switzerland, Thailand, UK.

Industry Examples. BAE Systems, Boeing, Lockheed Martin, Raytheon, Northrop-Grumman, General Atomics

Teaming. DoD, other agencies, academia, and industry. Cooperative R&D and Commercial Service Agreements, Navy Potential Contractor Program and Patent License Agreements

Developmental Testing
WD Tenant Commands
Naval Test Wing Pacific

- VX-31 (China Lake)
- VX-30 (Point Mugu)

Operational Testing
VX-9 (COMOPTEVFOR)
Marine Aviation Detachment (MAD)

Weapons. AMRAAM, AARGM, ESSM, General Purpose Bombs, HARM, Harpoon, Hellfire, JDAM, JSOW, Laser Guided Bombs, LCDB, RAM, Spike, SLAM, SLAM-ER, Sidewinder, Sparrow, Standard Missile, Tomahawk, Trident

Programs/Projects/Systems (Examples). AESA, ASG, CIED, DPSS, DGTDS, EW Systems, JHMCS, High Speed Weapons, Infrared and Electronic Countermeasures, Intrepid Tiger Pod, Link-16, LOGIR, MIDS, RAIDER, SHARP, Tactical Aircraft Electronic Warfare, TOPSCENE, Unmanned Aerial Systems, WSSA activities

History

China Lake. Established during WWII to test rockets developed by the California Institute of Technology.

Point Mugu. Established in 1946 as the Navy's first instrumented missile test sea range.

Location

China Lake. 150 miles NE of Los Angeles (desert)
Point Mugu. 50 miles N of Los Angeles (coast)

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